N-QA-093 1/90

TECHNICAL AND MANAGEMENT SUPPORT SERVICES

QUALITY ASSURANCE PROGRAM DESCRIPTION

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION (SAIC)

LAS VEGAS, NV

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TECHNICAL & MANAGEMENT SUPPORT SERVICES (T&MSS)

QUALITY ASSURANCE PROGRAM DESCRIPTION

Agres & Harper, Manager TEMSS Quality Assurance 4-10-92

Date

Michael D. Voegele T&MSS Project Manager

Date

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#### POLICY STATEMENT

It is the Policy of Science Applications International Corporation (SAIC) Technical & Management Support Services (T&MSS) and its employees to provide the highest quality products, services, and management support to the Department of Energy (DOE) and its Yucca Mountain Site Characterization Project Office (YMPO). To assure the accomplishment of these critical activities, T&MSS has issued a Quality Assurance Program Description (QAPD) and implementing procedures which define the steps we will take to accomplish these activities. Compliance with the Quality Assurance Program by T&MSS personnel is mandatory.

The Project Manager of SAIC T&MSS is responsible for developing, maintaining, implementing, and verifying the activities accomplished under the QAPD. Each Assistant Project Manager (APM) whose organization performs quality-related activities is responsible for identifying those activities within his/her organization which are quality-related; establishing and clearly defining the duties and responsibilities of personnel within the organization who execute quality-related activities; planning, selecting, and training personnel; and establishing, maintaining, approving and following procedures and instructions for the accomplishment of these tasks.

The authority for defining the T&MSS QA Program and verifying its implementation is delegated to the T&MSS Quality Assurance Manager who is organizationally independent of the activities being accomplished and who reports directly to the Project Manager.

Michael D. Voegele T&MSS Project Manager

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### T&MSS QUALITY ASSURANCE PROGRAM DESCRIPTION

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Attachment C T&MSS Glossary

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#### 1.0 ORGANIZATION

This section describes the Technical and Management Support Services (T&MSS) Organization. The T&MSS organization consists of Science Applications International Corporation (SAIC), and other subcontractors. T&MSS has participant and support contractor roles in the Yucca Mountain Site Characterization Project (YMP).

As work is assigned to T&MSS by the Yucca Mountain Site Characterization Project Office (YMPO), each T&MSS line manager and the T&MSS Quality Assurance (QA) Manager shall assure that the quality-affecting scope of work assigned to them is executed under the requirements of this QAPD or the OCRWM QA program. All T&MSS activities are directed and controlled by T&MSS management from the the T&MSS Las Vegas Office or the YMP Site.

The T&MSS organization components, consisting of the management positions listed below, are responsible for those functions assigned to T&MSS.

T&MSS Project Manager
T&MSS Deputy Project Manager
Assistant Project Manager, Field Testing Support
Assistant Project Manager, Site Characterization Support
Assistant Project Manager, Environmental and Regional Programs
Assistant Project Manager, Planning and Information
Assistant Project Manager, Institutional and External Affairs
Assistant Project Manager, Resource Management
T&MSS Safety and Health Staff Advisor
Project Office QA Support Liaison
T&MSS Quality Assurance Manager

The above managers shall assess their work assignments to determine the appropriate new or existing procedures to be applied dependent upon whether the assignment is participant or DOE support work. (See Section 2.0). Participant work shall be accomplished in accordance with procedures established to implement the T&MSS QA program requirements and DOE support work shall be accomplished in accordance with procedures established to meet the OCRWM QA program requirements unless otherwise directed by the DOE. QA Grading Reports define the application of QA program requirements for T&MSS organizations.

An overview of the entire T&MSS organization is depicted in Exhibit 1. Exhibits 2 through 7 reflect the reporting relationships to the departmental level.

The description of responsibilities and functional activities that follow includes both participant activities (which are implemented through the T&MSS QAPD) and Project Office support activities (which are implemented through the OCRWM QARD). DOE may direct T&MSS to use either the OCRWM QA implementing procedures or those specific to the T&MSS QA program.

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### 1.1 T&MSS Project Manager

The T&MSS Project Manager is the Technical Project Officer (TPO) for T&MSS with overall responsibility for implementation of the T&MSS QA program and for T&MSS support of the YMP. This individual reports directly to the YMP Project Manager for all contractural and technical direction and has authority over all T&MSS personnel assigned to work under the scope of services provided by T&MSS in support of the YMP.

The T&MSS Project Manager's responsibilities include, but are not limited to the following:

- a. Planning and directing work activities;
- b. Complying with quality requirements imposed by quality program documents;
- c. Satisfying staff resource needs, cost, and schedule objectives, and deliverable requirements;
- d. Approving and implementing the T&MSS QAPD and the T&MSS QA program implementing procedures;
- e. Implementing the YMP procedures as they apply to the T&MSS scope of work;
- f. Implementing corrective actions for deficiencies identified with T&MSS quality program;
- g. Providing periodic assessment to the YMPO regarding the adequacy and effectiveness of the T&MSS quality program; and
- h. Approving and implementing Stop Work Orders.

The T&MSS Deputy Project Manager assists the T&MSS Project Manager as required and acts in the capacity of the T&MSS Project Manager during the absence of, or at the explicit direction of the T&MSS Project Manager.

#### 1.2 APM, Field Testing Support

The APM, Field Testing Support reports directly to the Project Manager. This organization provides field testing support to the YMP, in accordance with the requirements of the OCRWM QA program. However, portions of the work may be performed under the T&MSS QA program when directed by the DOE. Reporting to this APM are the managers of the following Departments:

			MANAGEMENT SUPPORT SERVICES RANCE PROGRAM DESCRIPTION	N-QA-093 1/90
1	1.2.1	Field Opera	tions Support Department	
		The respons	ibilities of the Field Operations Support are to:	
1		a. Develo	p field management plans and controls;	
1		b. Provide	e access/visitor control;	
1		c. Determ	ine field resource requirements.	
ł		d. Review	ing job packages;	
l		e. Develop	p project reporting system; and	
١		f. Provid	ing field logistics management.	
l	1.2.2	Field Test	Facility Support Department	
		The respons	ibilities of the Field Test Facility Suppare to:	ort
I		a. Coording (COTS)	nate Construction, Operations, and Test S;	upport
1		b. Plan a	nd monitor COTS activities;	
1		c. Monito	r Title III activities;	
I		d. Develop	p, coordinate and review job packages; an	ıd
1		e. Develo	p budget validation submittals.	
1	1.2.3	Drilling Su	pport and Sample Management Department	
			ibilities of the Drilling Support and Sam Department include the following:	nple
ı		a. Operat	e the Yucca Mountain Sample Management Fa	cility;
1		b. Provide	e field testing coordination;	
		c. Coordi	nate surface drilling support;	
l		d. Plan a	nd monitor field test activities; and	
1		e. Coordi	nate data flow.	j
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1.2.4 Safety and Health Compliance Department

The responsibilities of the Safety and Health Compliance Department include the following:

- a. Review, analyze and interpret occupational safety and health laws and regulations;
- Develop and document integrated Yucca Mountain Project health and safety programs;
- c. Assist Project Office coordination of participant implementation of safety requirements; and

This department does not perform any quality-related activities.

1.3 APM, Site Characterization Support

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The APM Site Characterization Support reports directly to the Project Manager. The activities of this organization may be performed under both the OCRWM and the T&MSS QA programs as assigned by DOE. Reporting to this individual for site characterization activities are managers for the following departments:

1.3.1 Test Planning and Support Department

The Test Planning and Support Department is responsible for the following:

- a. Provide personnel to be assigned by DOE/YMP as Project Engineers for the management and administration of Test Planning Packages;
- Manage and administer the planning, compilation, development, revision, and review of assigned Test Planning Packages for Surface Based Testing activities both on and off the Site;
- c. Provide personnel to be assigned by DOE/YMP as Job Package Coordinators for the management and administration of Job Packages;
- d. Manage and administer the planning, compilation, development, scheduling, budgeting, revision, and review of assigned Job Packages for Surface Based testing activities and, as needed, Exploratory Studies Facility Testing;
- e. Administer the Field Change Request process for assigned Test Planning and Job Packages;

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- f. Provide other support for the administration, planning, and implementation of Surface Based Testing as assigned by YMP/DOE;
- g. Develop, prepare, and revise plans, procedures, and controls for testing as assigned by DOE/YMP;
- h. Provide technical expertise for review of Surface Based Testing related YMP Documents as assigned by DOE and YMP Participants; and
- i. Administration of text input and retrieval to Comment and Response System (CARS).
- 1.3.2 Scientific Investigation Support Department

The Scientific Investigation Support Department is responsible for the following:

- a. Performance of technical and scientific studies in support of the site characterization programs;
- Preparation of technical requirements documents for structures, systems, components and site characterization;
- c. Preparation of technical documents and performance of technical and scientific studies in support of international high level radioactive waste programs;
- d. Performance of regulatory evaluations and preparation of reports in support of licensing strategies and requirements;
- e. Performance of evaluations, including technical auditing, in support of quality assurance tasks;
- f. Performance of special Geotechnical tasks supporting preparations for and implementation of scientific site characterization work; and
- g. Performance of management tasks, such as independent cost estimates.

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### 1.3.3 Special Project Department

The Special Projects Department is responsible for the following:

- a. Performance of technical and scientific studies/tasks in support of the site characterization programs;
- b. Providing project engineering support of studies/tasks assigned to T&MSS by DOE, including all aspects and documentation of planning, implementation, monitoring and change control activities;
- c. Providing project engineering support to T&MSS organizations, including detailed planning, monitoring of scope/schedule/budget progress, and control activities; and
- d. Performance of administrative and management studies in support of Site Characterization Support, other T&MSS organizations, and the T&MSS Project Manager's office.

### 1.4 APM, Environmental and Regional Programs

The APM, Environmental and Regional Programs reports directly to the Project Manager. Reporting to this individual are managers of the following departments:

#### 1.4.1 Regional Studies Department

The Regional Studies Department is responsible for:

- a. Assessing the socioeconomic structure of the region and communities:
- b. Identifying potential socioecomonic effects related to the YMP and transportation;
- c. Developing strategies to mitigate adverse socioeconomic impacts;
- d. Supporting implementation of the Payments-Equal-to-taxes program and financial assistance programs;
- e. Assessing regional population density and distribution, agricultural characteristics, and cultural characteristics;
- f. Coordinating and supporting public interaction involving transportation issues; and

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g. Coordination between the Project and the State universities regarding grants.

The work of this department is performed under the T&MSS QA program.

1.4.2 Radiological and Environmental Field Program Department

The responsibilities of the Radiological and Environmental Field Programs Department include the following:

- a. Program planning, coordination, and implementation;
- b. Operation, calibration and maintenance of radiological, meteorological and air quality field monitoring equipment;
- c. Data collection, analysis and reporting;
- d. Radiological analysis;
- e. Radiological protection (safety);
- f. Radiological and environmental engineering requirements, implementation and support; and
- g. Site reclamation planning and coordination.

The work of this department is performed under the T&MSS QA Program.

1.4.3 Environmental Compliance and Permitting Department

The Environmental Compliance and Permitting Department has responsibility for supporting the T&MSS organization with regulatory surveillance assistance to ensure compliance with federal, state, and local environmental and land access requirements, as they apply to T&MSS activities.

The work of this department is performed under both the OCRWM and T&MSS QA programs as appropriate.

|1.5 APM, Planning and Information

The APM, Planning and Information, reports directly to the T&MSS Project Manager. Reporting to this individual are managers for the following departments:

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1.5.1 Planning and Control Department

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The Planning and Control Department responsibilities include the following:

- a. Develop and operate the Project Planning and Control System (PACS);
- b. Maintain the integrated Project schedule network, schedule hierarchy, and milestone data base;
- c. Develop and maintain the Project cost/schedule baseline and assist Project Office in preparing annual funding request;
- d. Collect monthly schedule status and actual costs, generate variance analysis reports, analyze report content and prepare written analyses;
- e. Prepare periodic Project-level reports on technical progress, and schedule and cost performance;
- f. Implement the process to control changes to the Project cost/schedule baseline, the Project Work breakdown structure, (PWBS) milestones, and work scopes;
- g. Assist the Project Office in maintaining financial management system including financial plan transactions, obligations and commitment tracking, and capital equipment planning and tracking;
- h. Support Project Office in responding to inquiries and reviews by the DOE Internal Review Board, the DOE Independent Cost Estimate team, the DOE Energy System Acquisition Advisory Board, the Office of Management and Budget, Congressional committees, the Inspector General, and the General Accounting Office; and
- i. Provide PACS training on scheduling, budgeting, earned value analysis, variance analysis, and at-completion estimating.

All activities of this department are non-quality affecting.

1.5.2 Records Management Department

The Records Management Department's responsibilities include the following:

a. Operation of the T&MSS Document Control Center;

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- b. Operation of the YMSO Document and Record Center;
- c. Operation of the YMPO Document Control Center; and
- d. Operation of the YMPO Central Records Facility (CRF).

Activities of this department are performed under both the OCRWM and T&MSS QA programs.

#### 1.5.3 Information Systems Department

The Information Systems Department's responsibilities include the following:

- a. Computer software development and maintenance for non project software, life cycle planning documentation, verification and validation, configuration management, qualification and acquisition, and access and use;
- b. Planning, installation, and maintenance of local area network, extended local area network, and the DOE wide area network (WAN);
- c. Provide computer user support including trouble call response; user indoctrination and training; installation, maintenance, removal, relocation of printers, plotters, terminals, personal computers, and installation of personal computer software;
- d. Administer hardware and software maintenance agreements;
- e. Provide systems programming and prepare acquisition plans to support procurement of computer system capital equipment; and
- f. Maintain computer Protection Plan and Disaster Recovery Plans to reflect current hardware and software configuration and operating procedures.

The activities of this department are performed under both the OCRWM and T&MSS QA programs.

#### 1.5.4 Information Management Support

The Information Management Support unit responsibilities include the following:

a. Assist in defining requirements and plans for implementing automated and manual information systems; and

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b. Serve as Data Administrator for Project Technical Data Base, System Administrator for Automated Technical Data Tracking System, and provide support to the Project Technical Data Manager.

### 1.6 APM, Resource Management

The APM Resource Management reports directly to the T&MSS Project Manager. Reporting to this APM are managers for the following departments:

1.6.1 Finance and Control Department

The finance and Control Department is responsible for the following administration activities.

- a. Auditing and processing payables;
- b. Processing time cards;
- c. Providing administrative policy guidance and interpretation;
- d. Managing and administering cash account funds;
- e. Monitoring T&MSS contract financial reporting; and
- f. Responsible for the T&MSS Contract Management Control System (CMCS).

All Activities of the Finance and Control Department are non-quality affecting.

1.6.2 Personnel and Contract Support Department

The Personnel and Contract Support Department is responsible for the following activities.

- a. Procurement of items and services;
- b. Verifying the education and experience of T&MSS personnel;
- c. Contracts administration; and
- d. All T&MSS personnel matters.

Quality affecting work is performed under the T&MSS QA program.

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### 1.6.3 General Services Department

The General Services Department is responsible for the following activities:

- a. Maintain functional availability of the office furnishings and equipment;
- Coordinate and implement office rearrangements and remodeling;
- c. Maintain motorpool;
- d. Shipping and receiving;
- e. Provide storage services;
- f. Provide preventive and remedial maintenance;
- g. Maintain and procure office supplies;
- h. Coordinate building maintenance requests;
- i. Administer real property leases;
- Maintain records for the T&MSS property assets;
  - k. Provide graphic arts services; and
  - Provide reproduction services.

All activities of the General Services Department are non-quality affecting.

### 1.6.4 Training Department

The Training Department is responsible for providing training support to T&MSS as requested. They also provide support to the DOE Project Office.

This work is performed under both the OCRWM and T&MSS QA programs as applicable.

### 1.7 APM, Institutional and External Affairs

The APM, Institutional and External Affairs reports directly to the T&MSS Project Manager. This APM is responsible for the following:

a. Collect and disseminate relevant information and consult and cooperate with affected states, local governments, affected Indian tribes, and the general public;

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- b. Coordinate information meetings, public presentations, exhibits, films, public tours, and other public information activities, including support of such activities with preparation, reproduction, and collection of information materials;
- c. Produce and distribute public information materials;
- d. Support media interactions;
- e. Develop and distribute educational materials and coordinate with area public schools;
  - f. Select and operate public information offices;
- g. Provide media relations skills training to Project participants;
- h. Support the conduct of public hearings; and
- i. Interact with business, environmental, and other interested groups.
- All activities of Institutional and External Affairs is non-quality affecting.
- |1.8 T&MSS Safety and Health Staff Advisor
- The Staff Advisor, T&MSS Safety and Health reports directly to the Project Manager. This person is responsible to:
  - a. Develop programs to ensure compliance with applicable Occupational Safety and Health Administration (OSHA) regulations, Department of Energy (DOE) orders, Project Office plans and procedure; and the SAIC Corp. Environmental Compliance Safety and Health programs;
  - b. Conduct Compliance Assurance Activities and verify abatement of identified safety and health deficiencies, and T&MSS recordkeeping and reporting;
  - c. Review and comment, as required, on unplanned non-radiological events that have potential for safety or health impact; and
  - d. Interface with Federal and State Regulatory Agencies and promote the T&MSS Safety Program.
    - All activities are non-quality affecting.
- 11.9 Project Office QA Support
  - The Yucca Mountain Project Office Quality Assurance Support reports administratively to the T&MSS Project Manager and functionally to the Yucca Mountain Project Quality Assurance Division Director. This

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organization provides support to the Yucca Mountain Project Quality Assurance Division Director.

### 1.10 T&MSS Quality Assurance Manager

The T&MSS quality assurance responsibilities are executed through the T&MSS Quality Assurance (QA) Manager. The T&MSS Manager reports directly to the T&MSS Project manager and has specific interface responsibilities with the YMPO QA organization. This individual shall have unencumbered access to higher levels of management on quality issues. The T&MSS QA Manager is at the same or higher organizational level as the highest line manager responsible for quality-related activities. The reporting relationship of the T&MSS QA Manager is illustrated in Exhibits 1 and 8. This individual shall have knowledge and experience in the areas of quality assurance and management. This position has the appropriate organizational position, responsibilities and authority to exercise proper control over the T&MSS QA program. The QA organization is involved in all portions of the T&MSS participant programs that affect safety and waste isolation. Controls include complete responsibility and authority for the following:

- a. Identify quality problems;
- b. Initiate, recommend or provide solutions to these problems;
- c. Verify implementation of solutions;
- d. Exercise stop work authority through established channels as required.
- e. Assure control of processing, delivery, installation or operation until proper disposition of a condition adverse to quality has been achieved;
- f. Direct and manage the T&MSS QA program;
- g. Review, approve, and issue the QAPD including revisions, and review and approval of the associated implementing procedures;
- h. Verify the adequacy and effectiveness of the implementation of quality assurance requirements by conducting audits, surveillances, reviews, and performing trend analysis;
- i. Coordinate T&MSS QA activities;
- j. Initiate, review, verify, and approve those documents used to identify QA program deficiencies; and
- k. Indoctrinate and train the QA staff.

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### |1.11 Independence of the QA Organization

The QA organization shall have sufficient authority, organizational freedom, independence from cost and schedule (regarding quality issues) and access to work areas to carry out the duties and responsibilities previously described. The organizational independence of the T&MSS QA organization is illustrated in Exhibits 1 and 7.

### |1.12 DOE Contracted Support Organizations

Selected DOE contracted support organizations, at the direction of the DOE, may perform their work scope activities under the provisions of the T&MSS QA program. Under such an arrangement those organizations receive functional direction from T&MSS management and administrative direction from DOE. Organizational relationships between T&MSS, DOE and DOE contracted support organizations are illustrated in Exhibit 8. For example, Desert Research Institute (DRI) conducts paleoclimatology activities under the T&MSS QA program.

#### |1.13 Interfaces

Interfaces between T&MSS, the YMPO and other participants shall be described in procedures, plans, or instructions as appropriate.

### |1.14 Delegation of Work

The T&MSS organization may delegate work under the T&MSS QA program to others as directed by OCRWM, but shall retain the responsibility for that work. If work is delegated, the work and associated QA Program requirements shall be described and documented. T&MSS shall be responsible for evaluating any delegated work by audits and surveillances.

### |1.15 Resolution of Disputes

T&MSS shall identify in procedures the methodology for elevating disputes regarding differences of opinion involving quality issues at any given organizational level where such disputes cannot be resolved at the work level.

#### |1.16 Quality Concerns

Allegations of inadequate quality shall be resolved in accordance with procedures established by the YMPO.

### |1.17 Stop Work Orders

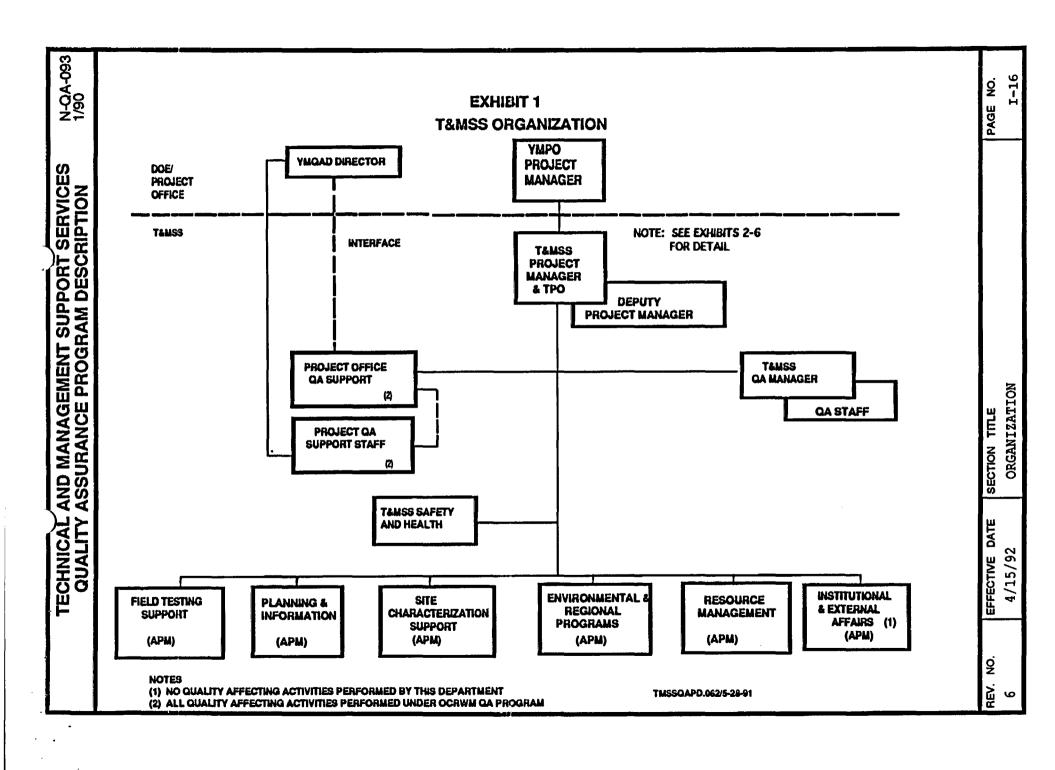
The T&MSS organization shall identify procedures for issuing and lifting Stop Work Orders. Provisions shall include the following:

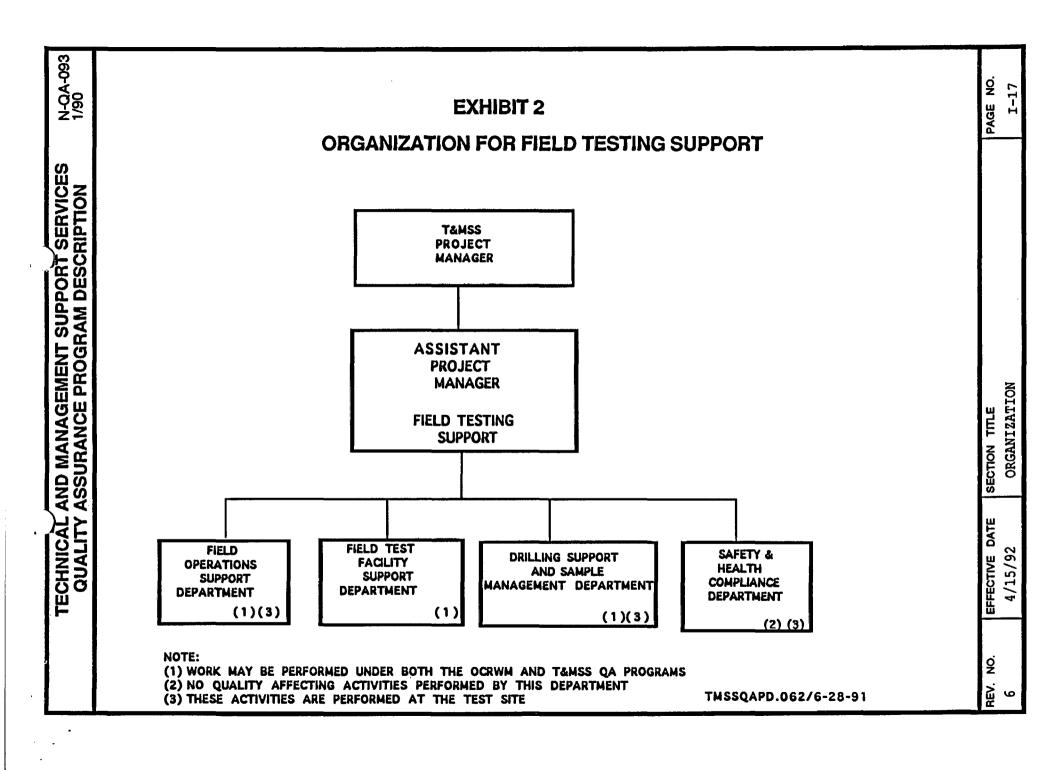
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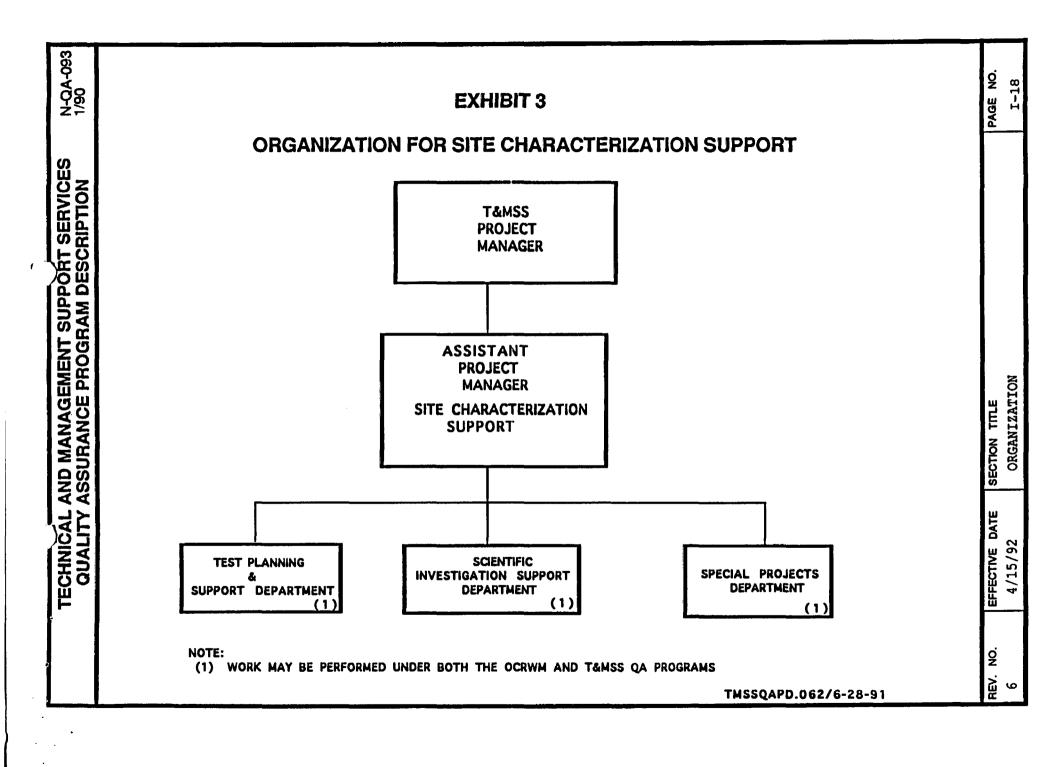
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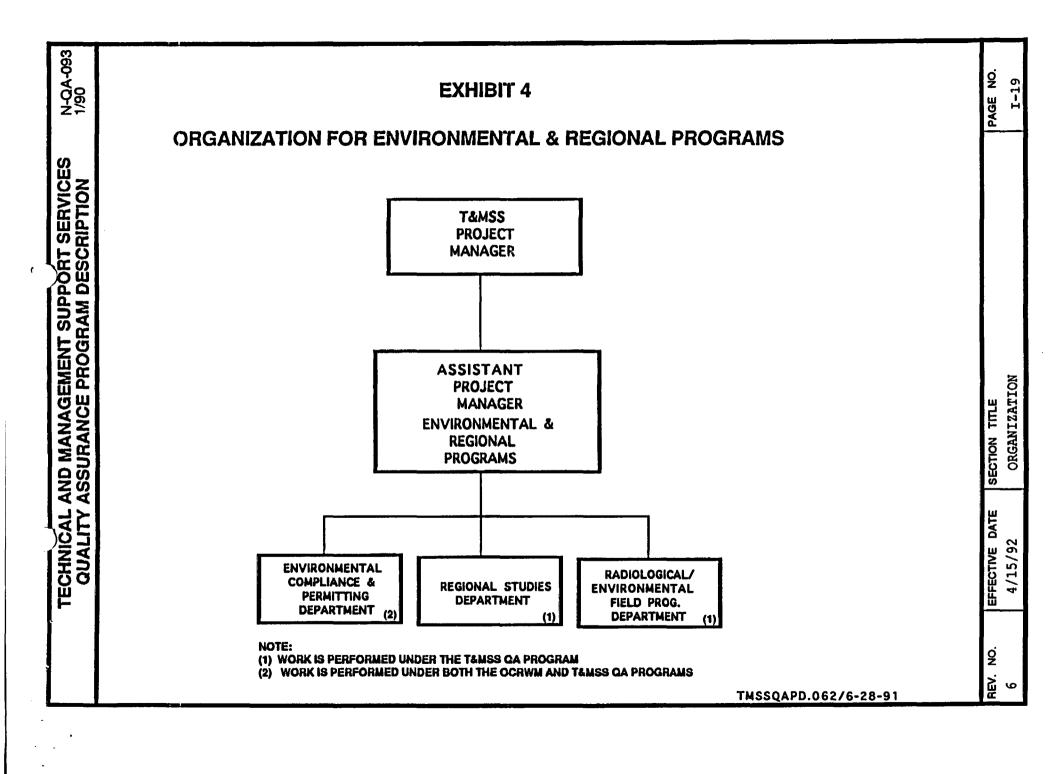
- a. Criteria and methodology for stopping work and for lifting Stop Work Orders;
- b. Exact definition of work being stopped; and
- c. Authorities and responsibilities.

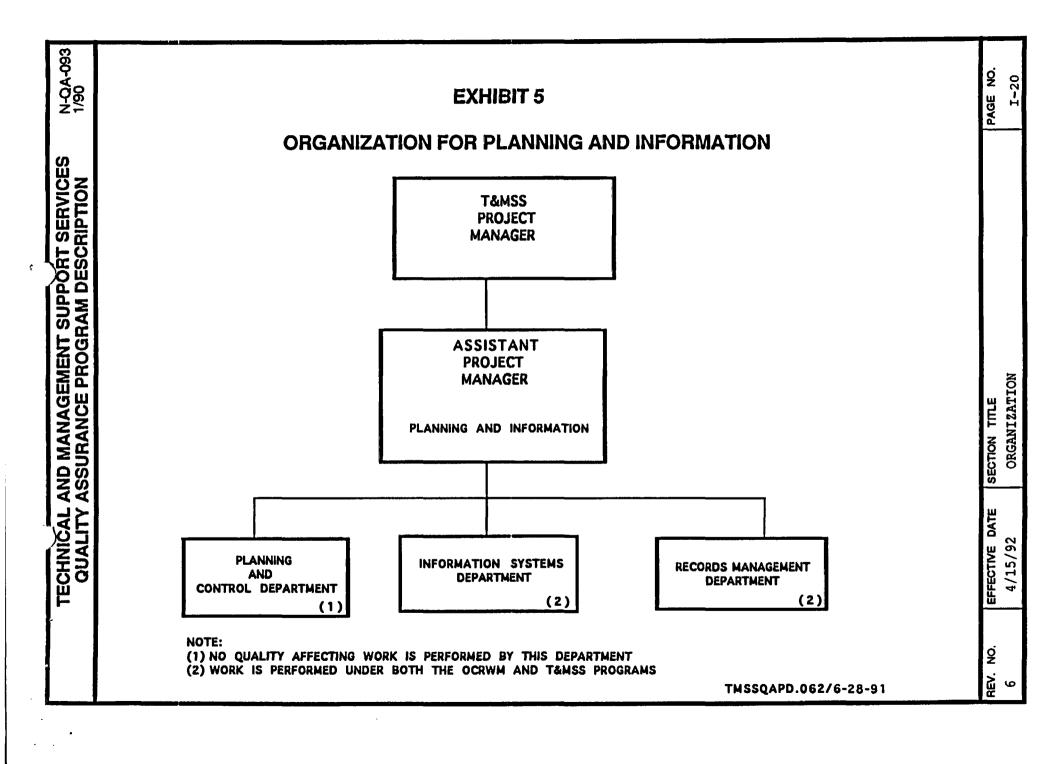
The T&MSS QA organization has the authority to issue a Stop Work Order to line management.

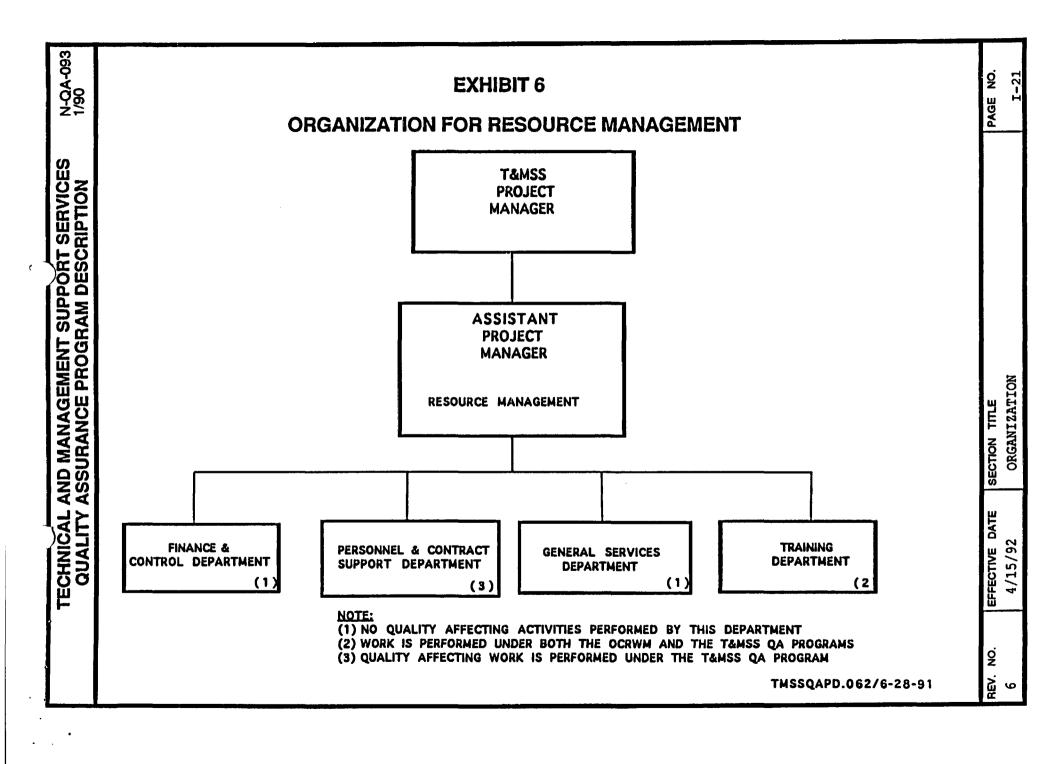


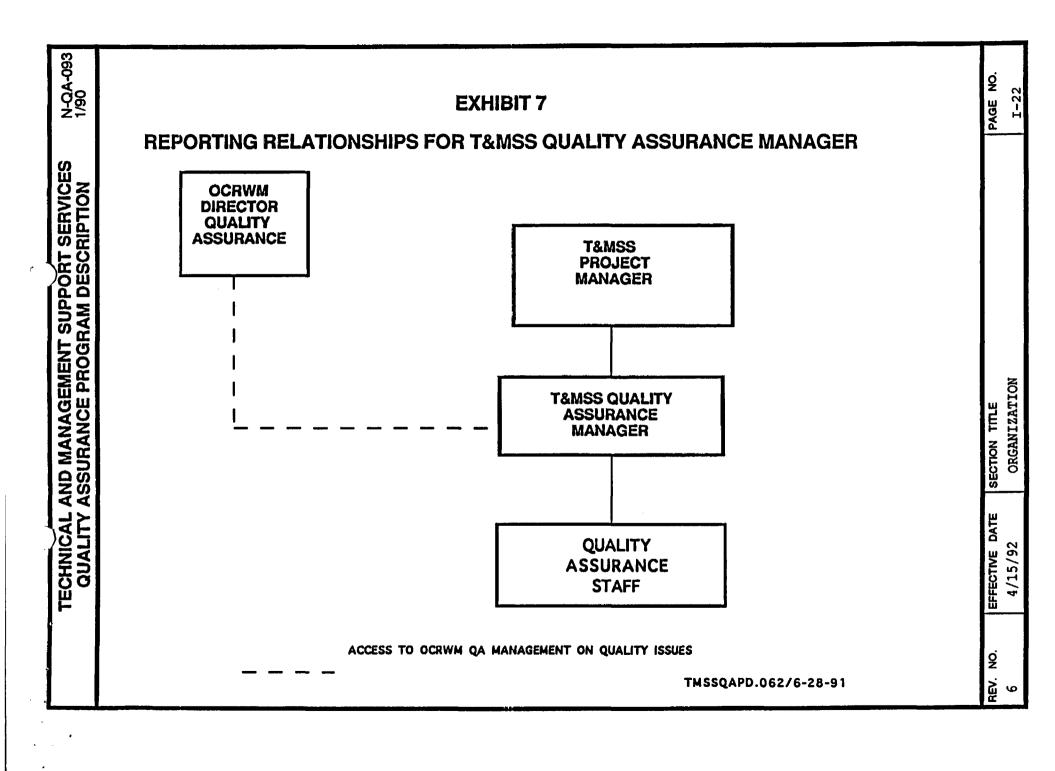


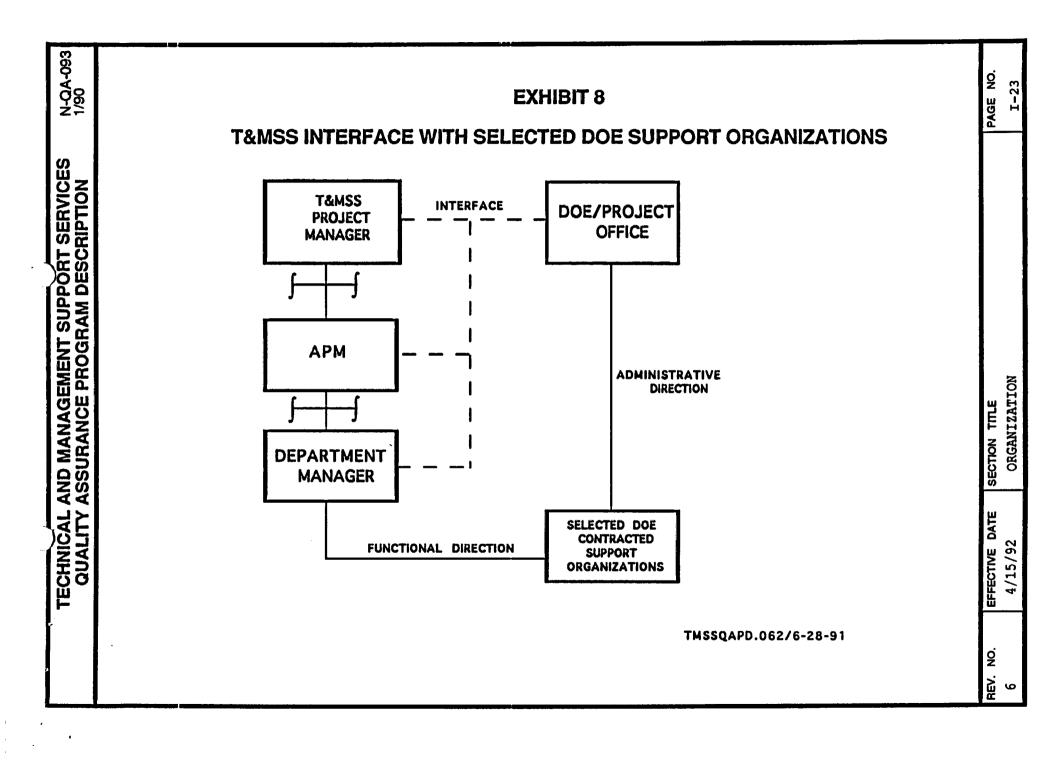












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#### ATTACHMENT B

### APPLICABILITY OF YMP APQS

I.	APQs Direct	ly Implemented by T&MSS as a Participant
	AP-1.6Q	Release of Unpublished Information
	AP-1.10Q	Preparation, Review and Approval of SCP Study Plans
	AP-3.3Q	Change Control Process
	AP-3.5Q	Field Change Control Processes
	AP-3.6Q	Configuration Management
	AP-5.1Q	Control and Transfer of Technical Data on the Yucca Mountain Project
	AP-5.2Q	Technical Information Flow to and from the Yucca Mountain Project Technical Data Base
	AP-5.3Q	Information Flow into the Project Reference Information Base
	AP-5.9Q	Qualification of Data or Data Analyses not Developed Under the Yucca Mountain Project Quality Assurance Plan
	AP-5.19Q	Interface Control
	AP-5.20Q	Hold Control
	AP-5.21Q	Field Work Activation
	AP-5.27Q	Control of Nonconformances
	AP-5.28Q	Quality Assurance Grading
	AP-5.32Q	Test Planning & Implementation Requirements
	AP-6.1Q	Project Office Document Development, Review, Approval and Revision Control
	AP-6.3Q	Interaction of Participants and Outside Interests with Yucca Mountain Project Sample Management

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### ATTACHMENT B (Cont.)

- II. APQs Implemented by T&MSS through T&MSS Participant Procedures
  - AP-1.50 Issuance and Maintenance of Controlled Documents
  - AP-1.8Q Records Management: Las Vegas Record Source Implementation
  - AP-4.1Q Procurement
  - AP-5.130 Readiness Review
- III. APQs Not Applicable to T&MSS as a Participant, but may be implemented by T&MSS personnel performing direct support to the Project Office under the OCRWM QA Program.
  - AP-1.170 Forms Control
  - AP-5.16Q Field Technical Compliance
  - AP-5.24Q Preparation and submittal of As-built Drawings and Specifications
  - AP-6.2Q Management and Operation of Sample Handling Activities at Borehole Sites
  - AP-6.4Q Procedure for the Submittal, Review, and Approval of Requests for Yucca Mountain Project Geologic Specimens
  - AP-6.6Q Field Collection, Documentation, and Specimen Removal of Exploratory Shaft and Drift Rock
  - AP-6.17Q Determination of the Importance of Items and Activities

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